LOADSTAR LETTER #74

Judi & Fender Head North To The '99 Expo

Intro by Jeff Jones, with excerpts from Robert Bernardo and the SWRAP web page at http://hometown.aol.com/rgharris/swrap.html. Fender and Judi headed north to Chicago and painted the town red with pizza sauce. They have pictures,

Fender and Bo Zimmerman break up a fight over a 128D

but as of yet they aren't developed — or at least I don't have them before me. So next month we'll print them. According the organizers, the EXPO was a big success! 70 - 75 people attended, and they listed Fender and Judi first! Here's what the web Robert Bernardo had to say from his Fresh from

the net series:

The Chicago Commodore Expo was held on September 25 at the Day's Inn in Lansing, Illinois. In a phone conversation with Randy Harris, the president of the SouthWest Regional Association of Programmers (SWRAP), briefly told of how the day went. Though he did not make a count of the attendees, the Expo room was very crowded. Maurice Randall had several demonstrations throughout the day on easy programming with Concept/GeoProgrammer. He also showed the Web.It 64 computer, the 486 computer with C64 emulation. Dale Sidebottom showcased the latest version of a Randall creation, PostPrint II, the utility which simplifies and enhances Postscript printing under Wheels 64/128. Tim Lewis, president of the Lansing Area Commodore Club (Michigan), demonstrated how to utilize the Delphi on-line service. Robin Harbron, Mark Seelye, Steve
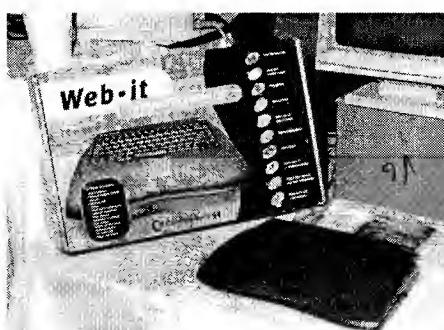
An actual Web.it computer made a special trip from Vaporware land courtesy of Maurice Randall.

Judd, and Nate Dannenberg were there with a bank of Commodores showing demos. Like at the last year's Expo, Nate brought his C128 Tower, but unlike last year, the Quickcam interface was not working, and so he was not able to show the latest version of his program for the Quickcam. Craig

Chamberlain, creator of the Enhanced SID Player, gave a talk for 30-45 minutes about his Commodore recollections, and
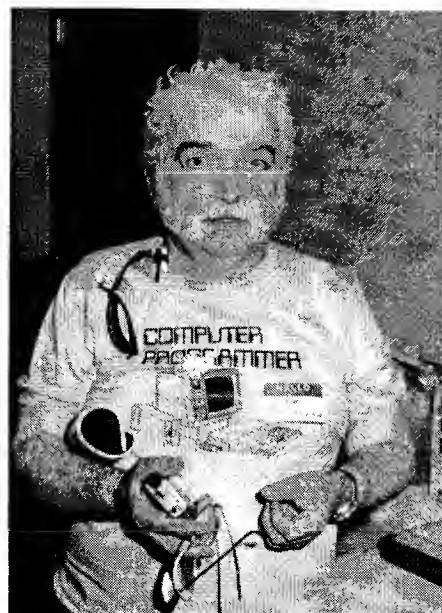
Jim Butterfield made a special appearance.

Jim Butterfield, programmer and writer, did the same. Throughout the day, an Archon tournament was held with the players going through elimination rounds. This year no C65s surfaced; last year three were on display.

Sales at the various tables were brisk, though the hardware sent by CMD was not moving. Randy was so busy with the organization of the Expo that he did not much time to concentrate on what was happening. Randy Harris, SWRAP 64/129 User Group, Inc., P.O. Box 528232, Chicago, IL 60652-8232, U.S.A.. Phone: (773) 375-9017 E-mail: rgharris@aol.com or rharris1@genie.idt.net Website -- http://members.aol.com/rgharris/swrap.html

Development continues on the beta version of PostPrint II. Now up to v2.7, PPII is a Wheels 64/128 (not GEOS) utility which

simplifies and adds new features to the printing of Postscript documents on level 1 or level 2 Postscript printers. PostPrint II is being distributed to owners of Dale Sidebottom's Laser Lovers Disk, which contains the original PostPrint. PostPrint II can be obtained in the following ways: send an e-mail to arca93@delphi.com , and Maurice can send back a file attachment to an e-mail message; if the user has an account on Delphi, Maurice can send it as an e-mail message that can be extracted to the user's workspace and thus be downloaded from there; or Maurice can attach it to an e-mail message left at his BBS.

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Maurice Randall is also developing SuperText, a text editor compatible with Wheels 64/128 and Postprint II. SuperText is described to be "Zed 0.77 on steroids" (Zed is a C128, 80-column, text editor by Craig Bruce.), which is compatible with the SuperCPU and makes full use of SuperRAM up to 16 megabytes.

HardSID. Hard Luck?

By Jeff Jones. HardSID is the PC SID sound card. It allows you to create real, honest to goodness, non-emulated SID sounds on your PC through hardware. The good side is that at $99 with a SID chip
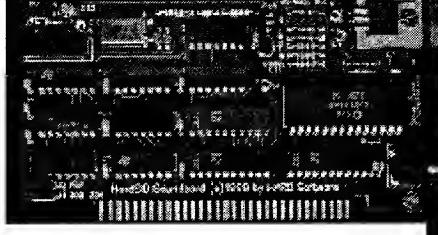
HardSID

and $89 without, the HardSID is much cheaper than the standalone MIDI Sid Station which sells at around $500 (I won't be buying one). The downside is that the HardSID, while eye-catching for PC users, is more expensive than most good (and I mean *really* good) PC cards — which do come with MIDI drivers and tons of support hardware. Just like the Sid Station costs more than some darn good full-fledged keyboards and tone generators.

I've been looking to see any excitement generated by the HardSID, but the general rant is that it costs too much. Might as well hook a real C-64 to your studio. Same sound.

I tend to agree. If you want to add a C-64 to your MIDI studio, you can simply play along with your favorite C-64 music program and record it or synchronize C-64 sequencing software to an existing MIDI setup. Still, I have to admit that I want a Sid Station as well as a HardSID. If I had the disposable income, I'd have them,

and I'd be proud to include SID sound in my music.

What would be the best possible C-64 setup for me? Well, I'd like full SID synching on a real C-64 with all three oscillators controlling *one* voice. This produces the fat sound that you rarely hear a C-64 produce anymore. If I want more C-64 voices, I'll add more C-64s. I'd need a bunch of very expensive MIDI interfaces for that.

There hasn't been enough exploration of the SID as a one-voice, three-oscillator unit. The old Casio CZ series had a dual setup like the SID where some thinner sounds used one oscillator per voice, but, at the sacrifice of polyphony, you could use two oscillators per voice and get a phat sound. What was better on a CZ? Tone mixing, which was monophonic but offered four oscillators per voice.

Let's hope someone reading writes some simple MIDI slave software for the C-64 that allows modulation of all oscillators as one voice, and Sysex (system exclusive) commands for changing the voice parameters. I'd love to write some techno with that. With my system here, I could make one C-64 sound like thirty easy.

Their web site is:

http://www.hardsid.8m.com/Pictures.html

But the web site is rather glitzy, with the information you're looking for hidden here and there. I honestly didn't see some of the info that Robert reports on below. Here's Robert Bernardo's take on the HardSID:

Have a C64 emulator running on a PC? Need the

correct SID sound coming out of that system? Then HardSID may be the answer. HardSID is advertised to be the ultimate soundcard for the PC; it's a board containing an actual SID chip. Its features are: 6581 and 8580 SID selectable with one jumper, removable SID and filter capacitors for customization, dramatically reduced noise, internal audio-out to existing soundcard, external RCA audio-out, audio-in, device jumpers which could be configured to have 4 HardSIDs on the same PC, full SID control including register-reading; support for SIDPlay, CCS64, and Come Back 64 emulators; future support for the Pulse Player emulator and MIDI, easy programming through HardSID. DLL, support for Windows 95/98 and DOS, and future support for Windows NT and Linux.

For more information, visit the webpage -- http://hardsid.8m. com/HardSID.htm E-mail: maco@alarmix.net

... End of Robert

HardSID Ordering info taken from their web page. Read *carefully*.

Send an email with the following details:
Address: maco@mail.alarmix.net
Subject: Order without SID
Or:
Subject: Order with SID
If you want more cards, include the number in the Subject line!
You will only pay once you have receive a reply from us, telling you that your HardSID is ready, and we are able to send it you.
2. Price and Payment
The HardSID costs $99US including a SID chip (see Important Note).
The card supports both the 6581 and 8580 versions, however we can mainly supply the 6581, and are unable to

guarantee the SID revision number (for example R4).
The HardSID costs $89US without a SID chip. (Recommended – Faster)
The method of payment is a bank transfer to our bank in Hungary, you will be emailed details once your HardSID is ready.
3. Shipping cost and time
The cost of shipping is not high, depending on your country, $7US for example.
What happens after you place your order?
If we have a card in stock, we will reply to you immediately by email, with details of how you can pay.
If we don't have any cards in stock, it takes up to 2 weeks to manufacture new ones. As soon as one is ready you will be emailed the payment details.
Once we have confirmed your payment, we will send your HardSID by airmail, the shipping time will depend on your country, but in general should only takes a few days. (7 days on average)
4. Important NOTE
We ask you to order your HardSID without a SID included. It's should be easy for you, but unfortunately we can only find a limited number of them.
Don't forget: If we have no SID currently in stock when you place your order, you must wait. You'd do better finding one yourself.
We give a higher priority to orders which do not require SID.

Four Platform Graphics

By John Elliott. Note from Jeff: the following article was written without the benefit of exposure to *Paint II*, published on Loadstar Quarterly #11, which is better than Spectrum.

The most common way of drawing or painting pictures on a Commodore computer should be with a paint program. Commodore paint programs are not common though outside of the c64 environment. Except for a simple joystick operated draw program, I have not seen a VIC 20 paint or draw program. While there is an excellent pal Plus-4 paint program, I do not know of any that work in NTSC mode. The 128 has one still available paint program- GEOS 128. It provides color in 40 columns and

a monochrome display in 80 column mode. There are several derivatives of the 80 column graphics environment, BASIC 8, including Spectrum 128 for the 64k VDC and Ipaint for the 16k and 64k video chip. They are however difficult to find

Built in Graphics

The VIC 20, c64, Plus-4 and 128 do have access to built in graphics and color control features. Although the last two have native commands that can draw and paint, the first two require a Super Expander cartridge for simple command manipulation. I rarely see either cartridge for sale.

Although BASIC 7 is a powerful 40 column bitmapped 128 program, it does not control the 80 column 128 screen which is text mode only. My sole source of graphics creation in the 80 column mode is through the characteristics of each key. A keyboard approach can be used on all 4 platforms, without the purchase of any additional hardware or software.

With care, images can be created that will look the same when loaded on all 4 computers.

Getting Keyed Up

To get the characters that are on the front or top of each letter key, use the Commodore or shift key in conjunction with that letter. Use BASIC 2 commands not 3.5 or 7, so that commands will work the same if the file is loaded to a different kind of C= computer.

Animation

Animation stationary: A face winks its eye, etc.

Animation across the screen: The Enterprise moves

across the top of the screen.

Create action with "for i=1 to x000:next i" and with a blank line to replace the one that preceded it, before placing a new shape on the line. For inter computer consistency avoid the use of the "sleep" command.

Shape

As we move across platforms, shape is retained. Width changes though due to the change from 80 to 40 to 23 column widths. So: Be careful to limit line length to 23 columns so that lines will be continuous as you move down the screen.

Color

Use Control and C= with the numbered keys to obtain desired colors. The VIC 20 is limited to 8 colors via the key approach. If you want consistency across computers, you would need to restrict yourself to those 8 colors.

Be careful of screen color or some parts clear on one platform will be invisible on another. White might be a safe background. Fine tuning of the color controls on the monitor may be necessary to maintain for example, the same blues for all platforms.

Significance

BASIC 7 in 40 columns on the 128 limits me to one foreground color at a time. All objects will be the same color. This is also true for the BASIC 7 derived programs for the 80 column bitmapped screen- Ultra Hires and DVC Graphics. If I change the foreground color of one image, all images change. Use of the numbered color keys enables me to individually color each character.

It is possible with this method to create a text and graphics story that would run on all 4 platforms. A limited graphics in adventure program approach could have Little Red Riding Hood move through the woods in a profile and overhead view. It might be necessary to alternate graphics with text on the screen though to accommodate the VIC 20's 23 column screen.

Eight BASIC 2 commands used with the keys that are common across all 4 computers would create quite respectable animated several colored text and graphics screens that would be viewable on all 4 Commodore color computers.

Commodore World Update.

by Robert Bernado. Part of an announcement from Creative Micro Designs and published on comp.sys.cbm and in the August issue of GO64! magazine... Effective with issue 26, Commodore World will be produced by CSW Verlag, publishers of GO64!, and will become known as GO64!/ Commodore World. The magazine will be produced in the English language and all outstanding issues due to Commodore World subscribers will be provided in the new format. CSW Verlag has shown us that they have the ability and expertise to provide you with a quality magazine dedicated to the Commodore 64/128. With their proven track record and staff dedicated to the full time publishing of a Commodore-specific magazine, Commodore World subscribers will benefit greatly. The magazine will now be received with greater

frequency (once a month) and will have larger pages, a glossy cover, and will also be provided with a cover disk. CSW Verlag, Goethestrasse 22, D-71364 Winnenden, Germany. Phone/FAX: +49 (0) 7195/61120. E-mail: go64@c64.org

GoDot

By Robert Bernardo. Arndt Dettke has released another module for GoDot, the graphics manipulation and conversion program for the C64. It is an improved version of mod. PixelEdit. The module can be downloaded by going to the GoDot website at-- http://users. aol.com/howtogodot/welcome. htm Click on "site news", page through the document, click on "koala svr", and from there you'll be sent to the FTP area in which you'll find the module and all previous-released modules not found in the original GoDot package. GoDot ($34.95, not including shipping) can be bought from Creative Micro Designs.

Concept Overview

By Maurice Randall. If you've used geoProgrammer, you'll adapt to Concept in a hurry. In fact, once you've used Concept, you won't want to go back. Concept is an assembler and linker integrated into one program. It's easy to use and loads entirely into memory. This makes assembling and linking faster. All assembler/linker modules are loaded into memory one time.

Concept installs itself as your default desktop while you're using it. From Concept, you can launch geoWrite for editing your source code and when you exit geoWrite, you'll return right back to Concept

ready to assemble and link your new source code. Concept can be used to create anything from a small GEOS/Wheels program all the way up to the biggest of the applications. In fact, Concept was used to create the new Wheels 64 upgrade.

Once you've created your new application, you can even test it right from Concept.

Concept runs in the Wheels 64 or Wheels 128 environment in both 40 and 80 column modes.

Download Concept at:

http://people.delphi.com/arca93/gbrowse/concept.htm

Loadstar is very proud that Maurice has archived them in Wraptor format, also available at his site. And ours: www.loadstar.com!

A much enhanced version of Concept is currently in the works. This will require the SuperCPU running with Wheels 64 or Wheels 128. It will require a minimum of 1 meg of SuperRAM, however this is subject to change as development progresses. 4 megs might be required.

There will be two advantages to this new version. One will be speed. All the work will be performed in memory before any files are written to disk. The entire source code will be read into memory, and then assembled. Once finished, the .rel file will be created on disk. The current version must read in small portions at a time and also write small portions of the .rel file as it is assembled. This constant reading and writing slows the system down. Plus, since two passes are made through the

source code as it's assembled, the source code is actually read twice. The SuperCPU version will only need to read the source code once on the first pass. The second pass is performed entirely in memory. The linker will work the same way. All the .rel files will be read in completely and linked together with all addresses resolved entirely in memory. Once this is completed, the finished code is written to disk, along with any error file and symbol file.

This version of Concept will also remove many of the limitations imposed by the current system. Symbols and labels will no longer be limited to only the first 8 characters being unique. All 20 characters will be permitted. Plus the number of symbols will be more or less unlimited, depending on how much ram you have in your SuperCPU.

The first release of Concept SC (that's what we'll call it for now) will appear here soon. It will gradually evolve into having many more capabilities. The ability to generate 65816 code will be included as well. It could also develop into the main core of a more enhanced programming environment, possibly. Time will tell.

The 80-Column Bit Mapped Screen

By John Elliott. For many 128 owners, the 80 column screen is used for text only. Some of us have used the print command and the color and graphics on the letter and number keys to create simple, usually stylized images which we can animate and mix with text. The results are however closer to ASCII art than to the products of paint programs.

A recent Loadstar 128 disk has a program which converts selected keyboard characters to Print Shop images. These pictures act as text characters on the text screen and can be moved, colored and animated as a letter might.

Both of these approaches use the 128 80 column text screen. There is an alternative.
80 Columns Bit Mapped

I have two graphics programs that use the 128 bit mapped 80 column screen. Both use commands similar to BASIC 7. This description is not academic. At least one of these programs can be bought today from CMD; the other may be available as a type in from a web site.

Ultra Hi-Res

I bought from CMD the Run Magazine Jan/Feb 1986 issue of Rerun, which contains a 5 1/4" disk and booklet of directions for the programs contained in those two issues. The program I wanted was Ultra Hi-Res, created by Louis Wallace and David Darus. They later developed the BASIC 8 software environment. BASIC 8 is the foundation of most sophisticated 128 80 column paint programs such as Ipaint and Spectrum 128. BASIC 8 and these paint programs are difficult to find even in a used form. They necessarily use a lower level programming approach. In order to give us REU, mouse and multicolor support, they remove us somewhat from a programming approach to image creation. Ultra Hi-res requires that each line or animation be stated as a line of BASIC.

The "at sign", @, must precede each Ultra Hi-Res command.

Text Handling

Font on the text screen and char on the bit mapped screen can use any of the three built in fonts: upper case/graphics, upper case/lower case, and a special small font at 7168. *Char* is more controllable in that width and height of each character can be decided. On the bit mapped screen underlining and reverse mode is available.

Both commands can permit BLOADing of additional Commodore fonts so long as they are bitmapped. I BLOADed one from my Fontmaster 128 disk. Graphics

Graphic turns on a 640 by 200 bit mapped mode. The graphic command also controls the foreground and background color. If at any point a new graphic command changes a foreground color, all images will change to that color.

Clr, dot, box, and *copy* all work as they do in BASIC 7.

Draw can only create one line segment before requiring a new command. Drawing an angle would take two draw commands.

The *bar* command draws a 3d bar. You can determine the height, width, depth and location.

Save saves the entire screen either in a normal or compressed form. *Load* calls that screen.

Blitter animation is available with *stash* and *fetch*. The memory location of each stash is automatically memorized, so that fetching does not require a knowledge of algebra. Fetched images appear very quickly on screen. A fetched box appears almost instantly and seems to be drawn vertically down the page.

I have had some difficulty in stashing and fetching several images out of sequence (ie *stash* a, b, c; *fetch* b, a, c). Hernan Vergara and I have spent several

weeks working on this problem. We can under some conditions *fetch* out of sequence but we have not yet found a general rule. If anyone has mastered this aspect, I would like to hear about their method.

VDC Graphics

This is a more recent program developed by Ken Davies. It appeared in the August 1989 Compute's Gazette. While I don't think CMD any longer sells these disks, I believe there is a site on the Net which contains a number of type in Gazette programs. This might be one of them.

BASIC 7

VDC also models itself on BASIC 7. Two commands are retained from BASIC 7, and do not require a special prefix.

Scale affects the whole screen. If the screen is scaled to normal, that will be the largest image size; as the scale numbers increase, the images become proportionally smaller to the point of invisibility.

Width gives a choice of line width. 1 selects normal width and 2 double. This affects lines, not characters.
VDC

All other commands require a "call" prefix. *Char* puts text on the bit mapped screen. There is no size control. *Circle* has all of its BASIC 7 properties including the ability to draw an arc or ellipse. *Draw* can take a number of turns so that an octagon for example can be drawn with one *draw* command. This may explain the lack of a *box* command.

Paint can do a fill either in foreground or background color.

Thoughts Regarding Both Programs

The screen can have only two colors at one time: foreground and background. Any change during a program affects the whole screen. Neither can print to a hardcopy. Both use all of their aspects with the 16k VDC. There is no interlacing. A BASIC 7 program could easily be converted to either of these 80 column versions.

Besides the examples given, there are no additional BASIC 7 commands recognized- except windows. VDC Graphics can use the windows command on the 80 column bitmapped screen (not documented).

Relevance and Importance

Both Ultra Hi Res and VDC Graphics give a much higher resolution than is available with 40 columns. There is a continuity of commands with the two Super Expanders and the BASIC that is built in to the Plus-4 and 128.

At least one of these programs can be bought today. Since they have different strengths, I am glad that I have both.

Every Picture Tells a Story

By Bruce Thomas. I am sure that everyone knows the old saying that a picture is worth a thousand words. I am also pretty confident that most people know the 'G' in GEOS stands for 'Graphic'.

It also stands to reason that people know that GEOS, or their new set of Wheels, will perform better with more hardware.

This leads into the next item. With all of the powerful new Hardware and Software that is now available for your Commodore you may find yourself having to prove that you

can afford some of these products. Wouldn't it be nice to be able to save your breath and have a picture tell the story?

The Right Tool: GeoChart was the last major application released by GeoWorks for the Commodore platform. It ranks right up there with the other applications as far as keeping the 'G' in GEOS and this is a perfect time to use it.

Weighing in at a hefty 60 KB, geoChart is second in size behind only geoPublish. This application runs under any version of GEOS 64 as well as GEOS 128 in 40 column mode. Integration with the rest of the system allows data to be imported via Text Scraps from geoFile, geoCalc, geoWrite or the Notepad.

Charts can be printed directly from geoChart or exported to geoPaint, geoWrite or geoPublish via Photo Scraps.

Pick Your Topic: GeoChart can import up to 1250 data values (25 rows by 50 columns) although a single chart can only display 80 items - 4 series with up to 20 items per series. This means you have lots of control over what appears on your chart.

That control is exercised in the two main modes of geoChart - Data Mode and

Chart Mode: The first thing to do is create the data. Enter the following information into a new geoWrite document:

Finances 1999,Jan,Feb,Mar,Apr

Housing,885,885,885,885

Food,487.53,447,468.97,512

Clothing,126,86.35,115,238.56

Entertainment,110,160,120,50

Income,1850,1850,1850,1850

This data is crammed together but geoChart will work wonders with it. I must point out that TABs, instead of commas, can also be used between our data items in geoWrite to make it easier to read. Copy the data to a Text Scrap and exit geoWrite.

Load the Film: Double-Clicking on the geoChart Icon brings up the familiar Create/Open/Quit dialog box. Choose Create and enter a filename. This is where geoChart veers away from the standard operation of GEOS applications.

Instead of being presented with the Data Mode screen we are forced to watch as the program draws a sample Column Chart detailing Widget Sales for 1987. The first time you start geoChart this is interesting to see but not *every* time you create a new chart. If, however, you find the Widget Sales data fascinating you can view the different Chart styles by using the Chart menu.

We actually want to create our own chart so let's choose Paste under the Edit menu. Another odd aspect of geoChart shows up now. A dialog box opens up and tells us that Pasting in our Text Scrap will destroy the old Data in the chart. Since we just created a new chart it is mildly startling to know it has data in it already. This is, of course, the sample Widget Sales data so go ahead and press the OK icon (here is a challenge for some talented programmer: remove the sample chart from geoChart).

Arrange Your Subjects: After importing our data we are presented with the Data Mode screen. It is here that we choose

which of our values will be charted, as well as the relationships they will have.

A grid, with one square for each data value, appears in the center of the screen. A box labeled 'Data Series', containing three empty text boxes, is below the grid. Beside the grid are two icons - Clear and Chart.

Move your mouse pointer over the top left-hand square in the grid and the text boxes will fill with the values 'Jan', 'Housing' and '885'. As you move your pointer around the grid you will see all of the information that we entered except for one item. The item 'Finances 1999' will be the title on our Chart.

Before we can go to Chart Mode we must choose the data we want on our chart. This is accomplished by dragging the mouse over the grid squares while holding the button down.

Let's position our mouse on the top left-hand square. Press your mouse button, drag the pointer down to the bottom of the first column, and release the button. That sets our first Data Series for the chart. Choosing another Series is as easy as clicking your mouse button on any open square on the rest of the grid. You can only Chart a maximum of four Data Series so choose up to 3 more from the grid. If you make a mistake or change your mind just press the 'Clear' icon. To see our Chart just press the 'Chart' icon.

Take the Picture: Our Chart will be drawn, after the Data is read in, and we can see what our Finances looked like for the first four months of the year. The Category Names (our expenses) appear along the bottom axis of the Chart. The Series Names (the months) appear in a legend box in the upper right corner.

If we had chosen our data by dragging the pointer 'across' the grid, then the Category Names would be the Months and the Series Names would be our Expenses (remember, only 4 data series). It can be quite interesting, and relatively quick, to adjust the selections for a different view of our data (to get back to Data Mode use the Mode menu).

Chart Mode is where we exercise our creativity. Using the menu selections in Chart Mode it is possible to edit the Category Names, the Chart Title, the Scale of the axis, as well as the fonts and fill patterns used, to present our data in the best possible way.

While in Chart Mode the Chart Menu lets you choose which of the 9 Chart types to display including the ever-popular pie chart plus area charts and variations on bar and point charts. If your chart has more than one Data Series you will be prompted to choose just one when you select either Pie or Unibar Charts.

Choose any month to see a Pie Chart with all of the data. If your income is over 50% of the pie you have some left at the end of the month. Use the 'Change Text' item on the 'Edit' menu to adjust the word Entertainment to fit the legend by abbreviating it or using a smaller font size.

Another exception to the majority of the Charts is the

Scatter Chart: Scatter Charts don't use the Category Names but use two Data Points in an X/Y relationship. If you are switching to a Scatter Chart you will be prompted to select which values are paired with each other.

Picture Talk! Of course, the fanciest Charts are no good unless you can print them out or import them into other Applications. GeoChart excels at this and provides lots of options.

If you just want to print your Chart then choose 'Print' from the File menu. If you want to add your Chart to another application then choose 'Copy' from the Edit menu to create a Photo Scrap.

Once you integrate your Chart into your report or budget, it becomes a lot easier to justify, to your significant other, the purchase of that exciting new computer add-on.

Writing Faster Algorithms: Reflections of a File Clerk

By Jeff Jones. It's purging time at the VA Medical Center in Shreveport. All 1994 X-rays and other medical imagery must go. This is a time-consuming and laborious process. There are thousands of files to he handled and inspected by hand. Some may be mislabeled on the outside so visual inspection of the X-ray packs inside is necessary. As I go about my tasks, I often find myself thinking of computing. Sometimes being straightforward might slow a process down. So when writing a program, you might want to think about the order in which you perform your sorting tasks. No matter how pure your code, you may find that breaking tasks down into smaller tasks is the way to go. I've proven this in the file room by becoming a human drive head and stepper motor. The file rooms at the VA are broken down into tracks and sectors, just like a disk drive. Tell me a person's name and the last four numbers of their social security number and my mind goes either to the basement or the fourth floor and then to a particular part of the room. The

purging involves five steps:

1. Checking the color code for 1994
2. Checking the outside of the folder for post-1994 dates
3. Checking the packs inside for post-1994 dates (and saving them)
4. Boxing films of old folders so that silver can be recovered from the tons of transparencies.
5. Separating (tearing off) the paper parts that must be shredded
6. Trashing the paper without sensitive information

How would a computer handle the same task I'm doing? I began thinking of myself like a hard drive, realizing that if I went back and forth too much, I would increase my seek time, which is the time that a head spends moving from sector to sector. Drives with lower seek times are much more valuable than drives with longer ones.

I also think about multitasking. How many things should I do at once? Well, doing more than one thing at once could mean getting up and going from place to place throughout a process, which means that in that time, I'm walking instead of working. Thus was born my theorem on multitasking: *Multitasking increases seek time.*

My supervisor advocates performing tasks 1-6 all at once. I advocate doing tasks one through 4 until the large pile of paper and smaller pile of mislabeled young folders were large enough to become a tasks and *interrupt* the destruction process. As soon as I find a post-1994 folder, my supervisor wants me to process it immediately. I want to lay it in a heap of saved folders until it's large

enough to be taken to the saved-folder bin where I will re-color code it and then re-file it.

Imagine if I were a computer and I came across a 1995 folder on every third file in 10,000 tests. My drive head would bang around and my progress bar would slow to a crawl. But if I stored all 1995+ folders in a heap until the heap was full, I could just interrupt and dump them sequentially many times faster than if I had been dumping while getting and inspecting new files all at the same time.

My supervisor frowns at my heaps of paper and folders to be saved and tells me that I'm only making work for myself. I told him my hard drive head analogy and he immediately replied, "Well, this is the *real* world."

While my supervisor was there, I did everything his way and the three of us managed to process 385 pounds of X-ray film. On the day he was absent, only two of us used the heap process and managed to process exactly 550 pounds of film.

If you're dealing with many records in the real world (on disk or in a room), you must keep in mind how much your head will bounce around from place to place. If you have more than one file OPEN, you're guaranteed to cause the head to jump every time you go from one file to another, even to read or write one byte. Have mercy on 1541 users when you design such projects.

11 or so millisecond access time is decent for a hard drive. The 1541's access time may be up to a second or even more. This is why compiling a large program (which has three or more files open) may take a half hour on a 1541. A 1571 can be legendary when going from one side of a disk to another.

This is why the 1541 is set up with track 18, the directory, in the middle of 35 tracks — so that it will never have to jump more than 17 tracks in order to hit the first sector of a file. Well that's the first sector of a file. A well fragmented disk might have parts of a file on track 1-35. High-performance hard drives have no need for a scheme like this because the heads are usually guaranteed to be able to get to any sector from any sector within its rated seek time. If you can imagine the little old man on the Carol Burnett Show as your head, you'll now why you'll want to plot out your disk sorting with as little extraneous head movement as possible — especially if there will be a lot of it. Your 1541 drive head *is* that little old man! Remember Jeff's first rule of speed: *A little time adds up to a lot of time in a loop of thousands.*

These rules don't count as much when you're dealing with RAM. Getting data from array(1) is just as fast as getting info from array(2000). In BASIC, it will take a tad longer to interpret 2000 than to read 1 simply because it has more digits to read. Compiled or in machine language, there is no difference in time.

Excessive JSRs and GOSUBs do add up. GOTOs are faster than GOSUBs. JMPs are faster than JSRs. In addition, the RETURN and RTS commands are *not* instant.

A JSR or GOSUB is a JMP or a GOTO with a stash process inserted. JSRs have to return to the caller so the address to return to has to be pushed on the stack. That takes time. An RTS or RETURN has to look up that stored address before going back to the caller. Keeping all this in mind, you'll write faster disk processes and hopefully faster programs all around.

The Commodore Products Source List #7

By Robert Bernardo. The Commodore Products Source List #7 is now available. CPSL7 is Roger J. Long's latest, comprehensive listing of over 330 clubs, dealers, stores, emulators and utilities, hardware, internet resources, magazines and books, music, repair sources, software, supplies, and telecommunications for Commodore computers. The Products List is available in printed, 1541 disk (or a 1581 disk if specified), and e-mail versions. The printed version is laser-printed from true PostScript output -- 52 pages complete with an index by company and an index by product. The costs for each version are as follows: Printed version -- $5.00, Disk version -- $3.00, E-mail version -- free. Roger gives permission for copies to be made (in printed or electronic form), freely distributable to be included in a newsletter, uploaded to a BBS, made for your friends and/or club, etc. He retains copyright, and his address must remain on the copies. If copies are made or the e-mail version is ordered, he would like a dollar or two to help reimburse him for his effort. If ordering from outside of North America, remember that the List primarily covers the United States and Canada. There are some entries for people and businesses in other countries, but prices and shipping charges are listed in U.S. currency. To cover the foreign shipping, please enclose an extra dollar or two. CPSL7 can be downloaded from -- http://home1.gte.net/longrj2/cpsl/index.html Roger Long, 1815 97th St. S., Apt. V7, Tacoma, WA 98444, U.S.A. E-mail: longrj2@gte.net

50 Things Women Do To Drive Men Crazy

1. Do not say what you mean. Ever.
2. Be ambiguous. Always.
3. Cry. Cry often. Tell them it's their fault.
4. Bring things up that were said, done, or thought years, months, or years ago. Fein clarity.
5. Make them apologize for everything. Make them grow accustomed to apologizing even when you know you're wrong.
6. Stash feminine products in their backpacks and in their books as cute reminders that you were thinking of them.
7. Gossip. Gossip about everything that walks.
8. Play Alanis Morissette's "You Outta Know," loud. Look at them and smile.
9. Look them in the eye and start laughing.
10. Cry.
11. Get mad at them for everything. Don't forget to make them apologize.
12. Discuss your period in front of them. Watch them squirm. Don't forget to make them apologize.
13. Hold grudges.
14. Demand to be e-mailed. Often. Whine when they don't comply.
15. When complimented, make sure to be paranoid. Take nothing at face value.
16. Use daddy as a weapon. Tell them about his gun collection, his quick trigger finger, and his affection for his "little princess."
17. Be late for everything. Yell if they're late. Don't forget to make them apologize.
18. Talk about your ex-boyfriend 24-7. Compare and contrast.
19. Go everywhere in groups, especially the bathroom. Do nothing alone. Independence is a sign of weakness.
20. Be unreasonable until they snap at you and then pretend to be afraid of violence. Don't forget to make them apologize.
21. Make them guess what you want and then get mad when they're wrong.
22. Plan little relationship anniversaries, i.e. the monthly anniversary of the time you saw each other in the library...for five minutes. Then get mad at them for forgetting. Then cry.
23. Get them to apologize for hypothetical scenarios and then stay mad at them.
24. Gather many female friends and dance to "I Will Survive" while they are present. Sing all the words. Sing to them. Sing loud.
25. Correct their grammar.
26. Describe back-alley abortions. Then remind them of their mother or little sister.
27. Constantly claim you're fat. Ask them. Then cry, regardless of their answer. Don't forget to make them apologize.
28. Leave out the good parts in stories.
29. Make sure to only be interested in guys in the same friendship group. Make sure to cause trouble.
30. Make them wonder. Confusion is a good thing.
31. Cry.
32. Declare that you are not wacko. Don't forget to make them apologize.
33. Criticize the way they dress.
34. Criticize the music they listen to.
35. Criticize their hair.
36. Ignore them. When asked, "What's wrong?" tell them that if they don't know, you're not going to tell them.
37. Try to change them.
38. Try to mold them.
39. Try to get them to dance.
40. Pretend you're interested, lead them on, then feign ignorance when confronted.
41. When they screw up, never let them forget it. Don't forget to make them apologize.
42. Make them stay at religious services until they are close to fainting. Just because.
43. Blame everything on PMS. Don't forget to make them apologize.
44. Blame everything on PMS only after it has been blamed on them.
45. Whenever there is silence ask them, "What are you thinking?"
46. Get mad if they don't notice a haircut. Even if it's only a half inch. Don't forget to make them apologize.
47. Read into everything.
48. Over-analyze everything.
49. Cry.
50. Make it your goal to make them cry. Don't forget to make them apologize. Make sure you tell them they over-reacted later on.

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